

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A universal shift apparatus for a swimming pool cover motor having a rotatable drive shaft and a rope attached to the end of the swimming pool cover, comprising:

(a) a reel unit element for collecting the rope, the reel unit element being mounted to freely rotate about the rotatable drive shaft;

(b) a drive unit roll-up element for collecting the swimming pool cover, the drive unit roll-up element being mounted to freely rotate about the rotatable drive shaft assembly;

(c) a gear drive assembly driven by the rotatable drive shaft, and adapted for driving the reel unit element in a first rotational direction as the drive shaft rotates in a first direction, and adapted for driving the drive unit roll-up element in a second rotational direction as the drive shaft rotates in a second direction; and

(d) a shift assembly associated with the gear drive assembly to selectively reverse the first rotational direction of the reel unit element and to selectively reverse the second rotational direction of the drive unit roll-up element, wherein the shift assembly includes a pivot member adapted to engage the reel unit and the drive unit, and wherein the pivot member is adapted to pivot in one direction to engage the reel unit when the rotatable drive shaft is rotated in the first direction, and wherein the pivot member is adapted to pivot in a second direction to engage the drive unit when the rotatable drive shaft is rotated in the second direction.

2. (Original) The apparatus of claim 1, wherein the reel unit element is adapted to collect the rope and extend the swimming pool cover as the shaft moves in the first rotational direction, and the drive unit roll-up element is adapted to collect and retract the swimming pool cover as the shaft moves in the second rotational direction.

3. (Cancelled)

4. (Currently Amended) The apparatus of claim 1-3, wherein the shift assembly includes a base member on the rotatable drive shaft for mounting the pivot member to enable the pivot member to pivot with the pull of gravity.

5. (Cancelled)
6. (Currently Amended) The apparatus of claim 1-5, wherein the pivot member is mounted on the base member so as to pivot at approximately 45 degrees with respect to the longitudinal axis of the rotatable drive shaft.
7. (Currently Amended) The apparatus of claim 1, wherein the shift assembly comprises a shift base ~~transformable member~~ associated with the gear assembly and configured to transform the gear assembly to drive the drive unit ~~roll-up element~~ as the rotatable drive shaft rotates in the first direction, and to transform the gear assembly to drive the reel unit ~~element~~ as the rotatable drive shaft rotates in the second direction.
8. (Currently Amended) The apparatus of claim 7, wherein the shift base ~~transformable member~~ is adapted to be removably attached to the rotatable drive shaft, and the gear assembly is attached to the shift base ~~transformable member~~.
9. (Currently Amended) The apparatus of claim 8, wherein the shift base ~~transformable member~~ is adapted to be removably attached to the rotatable drive shaft in a first position and a second position.
10. (Currently Amended) The apparatus of claim 9, wherein the second position of the shift base ~~transformable member~~ on the rotatable drive shaft is disposed approximately 90 degrees from the first position.
11. (Original) The apparatus of claim 1, further comprising a torque limiter mounted on the rotatable drive shaft, the gear assembly being associated with the torque limiter.
12. (Original) The apparatus of claim 11, wherein the shift assembly is associated with the torque limiter.

13. (Currently Amended) A universal shift apparatus, comprising:

(a) a rotatable drive motor shaft;

(b) a reel unit element for collecting ~~the a~~ rope, the reel unit element being mounted to freely rotate about the rotatable drive shaft, ~~wherein the reel element is adapted to collect the rope and extend the swimming pool cover as the shaft moves in a first rotational direction;~~

(c) ~~a roll-up element~~ a drive unit configured to be coupled to a roll-up tube for collecting ~~the swimming a~~ pool cover, the drive unit roll-up element being mounted to freely rotate about the rotatable drive shaft assembly, ~~wherein the roll-up element is adapted to collect and retract the swimming pool cover as the shaft moves in a second rotational direction; and~~

(d) a gear assembly mounted to be driven by the rotatable drive shaft, the gear assembly including a shift member configured to pivot to a first position ~~pivot member~~ adapted to engage and drive the reel unit element as the rotatable drive shaft moves in a first rotational direction and to pivot to a second position, ~~and adapted to engage and drive the drive unit roll-up element as the rotatable drive shaft moves in a second rotational direction; and~~

~~—— (e) a shift assembly associated with the gear assembly adapted to selectively change the orientation of the pivot member to engage and drive the roll-up element as the drive shaft moves in the first rotational direction, and to engage and drive the reel element as the drive shaft moves in a the second rotational direction.~~

14. (Currently Amended) The apparatus of claim 13, wherein the reel unit element includes first drive lugs thereon for engaging the shift member ~~pivot member~~ as the rotatable drive shaft moves in the first rotational direction.

15. (Currently Amended) The apparatus of claim 13, wherein the drive unit roll-up element includes second drive lugs thereon for engaging the shift member ~~pivot member~~ as the rotatable drive shaft moves in the second rotational direction.

16. (Currently Amended) The apparatus of claim 13, wherein the shift member ~~pivot member~~ is mounted on the gear ~~drive~~ assembly to pivot in response to gravity.

17. (Currently Amended) The apparatus of claim 13, wherein the shift member ~~pivot member is mounted~~ is configured to pivot at approximately a 45 degree angle in a first direction relative to the longitudinal axis of the rotatable drive shaft.

18. (Currently Amended) The apparatus of claim 13, wherein the shift ~~assembly is adapted to change the orientation of the pivot member so that the pivot member is mounted~~ configured to pivot at approximately a 45 degree angle in a second direction relative to the longitudinal axis of the rotatable drive shaft.

19. (Currently Amended) The apparatus of claim ~~13~~18, further comprising a torque limiter resistively mounted on the rotatable drive shaft, wherein the gear ~~drive~~ assembly ~~being is~~ mounted on the torque limiter.

20. (Currently Amended) The apparatus of claim ~~19~~18, further comprising a shift assembly wherein shift assembly is mounted on the torque limiter, and the gear drive assembly being is mounted on the shift assembly, wherein the shift assembly is configured to selectively change the orientation of the shift member to engage and drive the drive unit as the rotatable drive shaft moves in the first rotational direction and to engage and drive the reel unit as the rotatable drive shaft moves in the second rotational direction.

21. (Currently Amended) A method for adapting a reel apparatus for a swimming pool cover motor having a rotatable drive shaft and a rope attached to the end of the swimming pool cover, comprising:

(a) collecting the rope on a reel unit element, the reel unit element being mounted to freely rotate about the rotatable drive shaft;

(b) collecting the swimming pool cover on a roll-up tube element being driven by a drive unit, the drive unit ~~roll-up element~~ being mounted to freely rotate about the rotatable drive shaft assembly;

(c) driving the reel unit element in a first rotational direction as the drive shaft rotates in a first direction, and driving the drive unit ~~roll-up element~~ in a second rotational direction as the drive shaft rotates in a second direction, wherein the steps of driving the reel unit or the drive unit include pivoting a shift member to engage the reel unit or the drive unit; and

(d) pivoting the shift member in a first pivoting direction to engage the reel unit as the drive shaft rotates in the first direction;

(e) pivoting the shift member in a second pivoting direction to engage the drive unit as the drive shaft rotates in the second direction; and

(f) selectively reversing the first rotational direction of the wind-up reel ~~unit element~~ and the second rotational direction of the ~~drive unit roll-up element~~.

22. (Original) The method of claim 21, wherein the rope is collected to extend the swimming pool cover as the shaft moves in the first rotational direction, and the swimming pool cover is collected as the shaft moves in the second rotational direction.

23. (Cancelled)

24. (Currently Amended) The method of claim ~~21~~23, further comprising the step of mounting the shift member to enable the shift member to pivot with the pull of gravity.

25. (Cancelled)

26. (Currently Amended) The method of claim ~~21~~25, further comprising mounting the shift member on a base member so that the shift member can pivot at approximately 45 degrees with respect to the longitudinal axis of the rotatable drive shaft.

27. (Currently Amended) The method of claim 21, further comprising changing the orientation of the shift ~~member element~~ to drive the ~~drive unit roll-up element~~ as the rotatable drive shaft rotates in the first direction, and to drive the reel ~~unit element~~ as the rotatable drive shaft rotates in the second direction.

28. (Currently Amended) The method of claim 27, wherein the change of orientation step comprises removably attaching the shift ~~member element~~ on the rotatable drive shaft alternately in a first position or in a second position.

29. (Currently Amended) The method of claim 28, wherein the second position of the shift ~~member element~~ on the rotatable drive shaft is disposed approximately 90 degrees from the first position.

30. (Currently Amended) The method of claim 21, further comprising mounting a torque limiter on the rotatable drive shaft in association with the shift ~~member element~~.

31. (Currently Amended) A shift apparatus for a swimming pool cover motor having a rotatable drive shaft and a rope attached to the end of the swimming pool cover, comprising:

(a) a reel ~~unit element~~ for collecting the rope, the reel element being mounted to freely rotate about the rotatable drive shaft;

(b) a ~~drive unit roll-up element~~ for collecting the swimming pool cover, the ~~drive unit roll-up element~~ being mounted to freely rotate about the rotatable drive shaft assembly;

(c) a gear assembly driven by the rotatable drive shaft, ~~and adapted for driving the~~ gear assembly including a shift member configured to pivot to a first position to engage and drive the reel ~~unit element~~ in a first rotational direction as the drive shaft rotates in a first direction, and adapted for driving and to pivot to a second position to engage and drive the ~~drive unit roll-up element~~ in a second rotational direction as the drive shaft rotates in a second direction; and

(d) a torque limiter element mounted on the drive shaft and connected to the gear assembly to drive the gear assembly in response to the drive shaft.

32. (Original) The shift apparatus of claim 31, wherein the torque limiter element is connected to the gear assembly to limit the amount of torque applied to the gear assembly.

33. (Original) The shift apparatus of claim 31, wherein the torque limiter element comprises a hub connected to the drive shaft, the hub being in compression by a ring clamp around the hub.

34. (Original) The shift apparatus of claim 33, further comprising a split ring between the hub and the ring clamp.

35. (Original) The shift apparatus of claim 31, wherein the gear assembly is mounted on the torque limiter element.

36. (New) The apparatus of claim 13, wherein the gear assembly includes a shift base, and wherein the shift member is pivotably mounted on the shift base.

37. (New) The apparatus of claim 36, wherein the shift member is configured to pivot on the shift base to selectively engage the reel unit or the drive unit.

38. (New) The apparatus of claim 36, wherein the shift base is configured to be removably attached to the gear assembly in a first base position or a second base position.

39. (New) The apparatus of claim 38, wherein the second base position is disposed approximately 90 degrees from the first base position.

40. (New) The apparatus of claim 38, wherein the first base position of the shift base orients the shift member to engage the reel unit as the rotatable drive shaft rotates in the first rotational direction and to engage the drive unit as the rotatable drive shaft rotates in the second rotational direction, and wherein the second base position of the shift base orients the shift member to engage the drive unit as the rotatable drive shaft rotates in the first rotational direction and to engage the reel unit as the rotatable drive shaft rotates in the second rotational direction.

41. (New) The apparatus of claim 19, wherein the torque limiter comprises a hub connected to the rotational drive shaft, the hub being in compression by a ring clamp around the hub.

42. (New) The apparatus of claim 41, wherein the torque limiter further comprises a split ring between the hub and the ring clamp.

43. (New) The apparatus of claim 13, wherein the reel unit is configured to collect the rope and extend the pool cover as the rotatable drive shaft moves in the first rotational

direction, and the drive unit is configured to drive the roll-up tube to collect and retract the pool cover as the rotatable drive shaft moves in the second rotational direction.

44. (New) A universal shift apparatus, comprising:

- (a) a rotatable drive shaft;
- (b) a reel unit for collecting a rope, the reel unit being mounted to freely rotate about the rotatable drive shaft;
- (c) a drive unit configured to be coupled to a roll-up tube for collecting a pool cover, the drive unit being mounted to freely rotate about the rotatable drive shaft; and
- (d) a gear assembly mounted to be driven by the rotatable drive shaft, the gear assembly including a shift assembly configured to engage and drive the reel unit as the rotatable drive shaft moves in a first rotational direction and to engage and drive the drive unit as the rotatable drive shaft moves in a second rotational direction, wherein the shift assembly is configured to be removably attached to the gear assembly at either a first position or a second position.

45. (New) The apparatus of claim 44, wherein the second position is disposed approximately 90 degrees from the first position.

46. (New) The apparatus of claim 44, wherein the shift assembly is configured so that, in the first position, the universal shift apparatus is configured for implementation in a right-handed pool cover motor assembly.

47. (New) The apparatus of claim 44, wherein the shift assembly is configured so that, in the second position, the universal shift apparatus is configured for implementation in a left-handed pool cover motor assembly.

48. (New) The apparatus of claim 44, wherein a change of the shift assembly from the first position to the second position is configured to reverse the rotational direction that will cause the shift assembly to engage the reel unit.



49. (New) The apparatus of claim 44, wherein a change of the shift assembly from the first position to the second position is configured to reverse the rotational direction that will cause the shift assembly to engage the drive unit.

50. (New) The apparatus of claim 44, wherein the first position of the shift assembly orients the shift assembly to engage the reel unit as the rotatable drive shaft rotates in the first rotational direction and to engage the drive unit as the rotatable drive shaft rotates in the second rotational direction, and wherein the second position of the shift assembly orients the shift assembly to engage the drive unit as the rotatable drive shaft rotates in the first rotational direction and to engage the reel unit as the rotatable drive shaft rotates in the second rotational direction.

51. (New) The apparatus of claim 44, wherein the shift assembly comprises a shift base and a shift member, the shift member being configured to pivot on the shift base to selectively engage the reel unit or the drive unit.

52. (New) The apparatus of claim 51, wherein the shift base is configured to be removably attached to the gear assembly in a first base position or a second base position.

53. (New) The apparatus of claim 52, wherein the second base position is disposed approximately 90 degrees from the first base position.

54. (New) The apparatus of claim 52, wherein the first base position of the shift base orients the shift member to engage the reel unit as the rotatable drive shaft rotates in the first rotational direction and to engage the drive unit as the rotatable drive shaft rotates in the second rotational direction, and wherein the second base position of the shift base orients the shift member to engage the drive unit as the rotatable drive shaft rotates in the first rotational direction and to engage the reel unit as the rotatable drive shaft rotates in the second rotational direction.